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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/554,090 06/14/00 CHMELIR

M 6272-0049-0P

EXAMINER

IM31/0731

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ART UNIT PAPER NUMBER

1713
DATE MAILED:

07/31/01

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Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.

09/554,090

Applicant(s)

CHMELIR ET AL.

Examiner

Tanya Zalukaeva

Art Unit

1713

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 May 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 13-16 and 18-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 13-16, 18-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Cancellation of claims 12 and 17 and addition of new claims 24-31 is acknowledged.
2. Applicants' amendment has overcome rejections under 35 USC 112, second paragraph, and the rejections are, therefore, withdrawn.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. Claims 13-16, 18-23 stand rejected and new claims 24-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chmelir (U.S. 4,929,717) in combination with Alexander et al (U.S. 4,985,518)

Chmelir discloses a method of preparing homopolymers or copolymers that are water-soluble or swell up in water and have a low residual monomer content by treating them with at least one compound that can react with the monomer's double bond. The homopolymer or copolymer in the swollen form and in the form of a gel or in the form of a solution is treated with a compound, such as for example ammonia, an ammonium salt, an alkylamine and/or one of their salts or a hydroxylamine and/or their salts, subsequent to which the resulting

polymer gel or polymer solution is dried at an elevated temperature., which is 50-150°C (see abstract and col.2, lines 37-38) .

In specific regard nitrogen containing compounds, which are the concern of the instant claims 14 and 25 Chmelir teaches that the nitrogen compound in either embodiment of his invention can be, for example, ammonia, an ammonium salt, an alkylamine and/or one of its salts, a hydroxylamine and/or its salts. (col.2, lines 60-68) . Chmelir teaches that from 0.1 to 10% can be added by weight (col. 3, lines 35-41 and Tables 1-7).

In specific regard to claims 16, 18, 26 Chmelir's method relates to the polymerization of acrylic acid and methacrylic acid in the form of a homopolymer or copolymer, whereby water-soluble monomers such as acrylamide, methacrylonitrile and acrylonitrile, vinyl pyridine, vinyl acetate, and other water-soluble monomers such as polymerizable acids and their salts, especially maleic, fumaric, itaconic, vinylsulfonic, or acrylamidopropanesulfonic acid. (col.3, lines 43-55)

In regard to claim 19 Chmelir exemplifies that, slight proportions of crosslinking monomers, such as for example monomers with more than one polymerizable group in the molecule, can be polymerized along with the major monomers (col 3, lines 64)

In specific regard to claims 21 -23, which are concerned with actual amount of the residual monomer content, Chmelir discloses different residual monomer content of his acrylic polymers, depending on the nature and amount of

nitrogen containing compound, such as in Table 2, col.5, the residual monomer content is 40 ppm, in other cases, such as table 4 col.5 the residual monomer content is 30 ppm. Table 1 in col.4 provides the residual content of monomers less than 0.010%, which encompasses all of the instantly claimed values.

The disclosure of Chmelir differs from the instant claims by neutralizing the product on the polymer stage, compare to the instantly claimed neutralization on the stage of monomers.

Alexander discloses a method of preparing a water absorbing resin, including mixing a monomer solution of (A) **acrylic acid** neutralized 70 to 100 mole percent for example with **ammonia**, and/or caustic alkali and/or **an amine**; and (B) a water-miscible to water-soluble polyvinyl monomer, water and, when desired, an organic solvent having a boiling point of 40 to 150° C., and having a combined monomer concentration of (A) plus (B) of 30 to 80 wt. % is subjected to polymerization, either batch-wise, or continuously, in the presence of a combination of polymerization initiators. (see abstract and col.2, lines 64-68, col 3, lines 18-27).

The residual monomer content in Alexander's invention can be achieved less than 100 ppm. (col.5, line 1).

Because both Chmelir and Alexander utilize the same process of polymerizing acrylic and methacrylic monomers, and achieve a goal of lowering residual monomer content, one skilled in the art would have found it obvious to first neutralize monomers before polymerization, such as done by Alexander, in the process of Chmelir unless the criticality of the order of performing the

neutralization step is shown. Consult *Ex part Rubin*, 128 USPQ 440 (Bd. App. 1959), wherein the prior art reference disclosing a process was held to render prima facie obvious claims directed to a similar process by reversing the order of the prior art order steps. See also *In re Burnhans*, 154 F.2d 690, 69 USPQ 330 (CCPA 1946). Selection of any order of performing process steps is prima facie obvious in the absence of new and unexpected results.

Response to Arguments

5. Applicant's arguments filed May 17, 2001 have been fully considered but they are not persuasive.

Applicants arguments in regard to Chmelir's reference are that the polymer is first formed and then reacted with amine compound to react with unreacted double bonds, while in the instant invention monomers are first neutralized and then copolymerized.

However, Examiner has not argued that the double bonds of unreacted monomers in a copolymer would react, when the polymer, containing pendant carboxylic group reacts with amine compound, as described in Chmelir, the reaction between carboxylic groups and amine will inevitably occur in addition to the reaction of an amine with unreacted double bonds.

Furthermore, the heating step does name the complete drying of a polymer (col. 2, line 39) thus performing the same operation step as instantly claimed. It

is well known that one who performs all steps of the process necessarily achieves all its advantages, no matter whether they are taught or not taught in the prior art reference. Mere recitation of a newly discovered or **function** that is inherently possessed by the steps in the prior art does not cause a claim drawn to those things to distinguish over the prior art., consult **Leinoff v. Louis Milona & Sons, Inc.** 220 USPQ 845 (CAFC 1984).

The crux of the next Applicants' argument appears to hinge on the statement that because Alexander uses a mixture of two initiators, and does not disclose a heating step, the disclosure of Alexander can not be combined with Chmelir to modify Chmelir's disclosure.

First of all Alexander does use free radical initiators (see abstract and col. 6, lines 65-68., col. 7, lines 1-35), no matter that they are used in combination with other types of initiators.

Furthermore, if all the steps of the claimed process were fulfilled in Alexander's reference, it would have been used alone for 35 USC 102 (b) rejection .

However, this reference was used in combination with Chmelir's reference, because both have and achieve the same ultimate goal, namely low residual monomer content, both polymerize the same type of monomers, and the reference of Alexander is used **only combined** with the reference of Chmelir.

As required, the determination of obviousness in the instant case has not been made by the bodily incorporation of an element of one reference into

another, but rather, it has been determined from the combination of teaching of the references, *In re Keller*, 208 USPQ 871 (CCPA 1981).

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tanya Zalukaeva whose telephone number is (703) 308-8819. The examiner can normally be reached on 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (703) 308-2450. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3599 for regular communications and (703)305-3599 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0651.

Tanya Zalukaeva

Examiner

Art Unit 1713

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July 27, 2001



DAVID W. WU
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